

Esztergom Pipe Organ Samples

Collector's Edition

for Hauptwerk™ 3 and 4

User's Manual

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1. Welcome



Welcome to the Esztergom Pipe Organ Samples and congratulations for your purchase!

Esztergom Pipe Organ Samples is a fully playable, freely configurable, intuitively manageable and MIDI-controllable virtual pipe organ, delivering the authentic sound of the Mooser pipe organ of the Basilica of the Blessed Virgin Mary Assumed Into Heaven and St Adalbert, in Esztergom, Hungary.

The still-current reconstruction and extension of the instrument started in the mid '70s, and still lasts in these days. The Collector's Edition sample set was recorded at a time when 77 stops were fully functional, and approximately 70 stops were still to be built. Though the organ is being constructed by professionals with modern approach and knowledge, the aim is to recreate the archaic and solemn sound of the 19th century Mooser symphonic organ. This release is for the serious collectors, who are curious about the instrument, and wish to support the restoration and extension of this great and unique organ.

The currently finished 77 stops already make this instrument enormous, and produce an unbelievable sound. However, as a plus to the release, the disposition is virtually extended with 13 stops, for better playability and utility.

1.1. Highlights

The organ has many special features, including:

- Fully functional Combination Action, independent of Hauptwerk™'s combination action, controllable directly from the screen or by means of MIDI. (see chapter 3.10)
- Virtual instrument extension for increased utility
- Multiple pages optimized for single and dual touch-screens. (see chapter 3.1)
- Freely configurable keyboards
- and more

1.2. What is contained inside the package

1.2.1. Contents of the box

If your version of Esztergom Pipe Organ Samples was delivered to you in a physical form rather than a download, please make sure you have the following contents in the box to ensure you have received a complete product:

- Delivery Medium - an External Hard Disk Drive (i.e., with a USB connector) containing the installation data
- Your personal serial number on a printed registration card (in case of a retail box delivery)
- User's Manual (this document)

1.3. Hardware and software requirements

Esztergom Pipe Organ Samples is hosted within Hauptwerk™ virtual pipe organ software, available both PC and Mac computers from Milan Digital Audio, found at <http://www.hauptwerk.com> on the Internet. Hauptwerk™ functions with both currently available 32-bit and 64-bit operating systems. Hauptwerk™ Advanced Edition is recommended. A high-performance computer is required to experience full, flawless and convenient operation of this sample set.

1.3.1. RAM and number of loadable stops

Since Hauptwerk™ loads the sample data into the computer's random access memory (RAM) – and does not stream data from the hard disk – the amount of RAM determines the number of stops you can load for playing at a given time. The theoretical RAM limitation, per program instance is 4 GB in 32-bit operating systems; loading all stops of the organ requires a 64-bit operating system, capable of handling more than 4 GB of RAM. Regardless of operating system, please make sure you are using more than 4 GB of RAM.

Hauptwerk™ allows you to load the sample set with independent options for each available stop, allowing you to trade off the number of loadable stops with varying degrees of realism (you can, for example, choose to load less than the full complement of release samples). Loading all of the stops in their most complete multi-looped versions and with full release samples will consume much more RAM than loading them with, say, single looped data and/or truncated release tails.

Please refer to the Hauptwerk™ User's Manual for a complete description of how to maximize performance with these features.

Please refer to the Inspired Acoustics website for detailed RAM footprint guidelines at <http://www.inspiredacoustics.com>.

1.3.2. CPU and Polyphony

It is essential that your computer has a high-performance CPU in order to experience full polyphony. A high polyphony capability is required when many stops are drawn and many notes played together.

Note: Polyphony is defined as the number of stops being selected, times the number of notes held per stop, including the duration release tails to sound, at any given time.

A series of fast staccato chords in Tutti will stress your computer the most, because the initial

release tails will continue to sound as additional staccato chords are being played. For the most flawless operation, we recommend the use of a 4-core CPU or better, equipped with the most RAM that you can afford. As your CPU power increases, you can achieve more polyphony.

Please refer to the Hauptwerk™ User's Manual for a complete description of how to achieve maximum polyphony with your computer.

2. Installation

2.1. Installation of the main organ

Installing the Esztergom Pipe Organ Samples requires that you own a registered, installed copy of Hauptwerk™ virtual pipe organ software, together with a registered, working dongle.

This installation procedure is for Hauptwerk™ version 3.21 and 4. If using a different version of Hauptwerk™, the required steps may be slightly different in detail; please refer to your version's copy of the Hauptwerk™ User Guide.

If you received the Esztergom Pipe Organ Samples as a downloadable product, please make sure that you downloaded all the installation files prior you begin installing. It is required to have all the files in one folder.

If you received a retail box product you will need to insert the installation medium first, which should be an External Hard Disk Drive. Please connect it to your computer and navigate to the device to see the folders and files.

Wait until the computer recognizes the USB drive and, either a drive letter is dispatched to it (PC - Windows), or it is mounted on the desktop (Mac - OS X). Once your computer has accessed the USB drive, proceed to the next step.

1. Launch Hauptwerk™ virtual organ software.
2. From within Hauptwerk™, go to the file menu and select Install organ, sample set, temperament or impulse response.
3. The program will prompt you to select the program to install.
4. Navigate to the folder with the installation files and select the first file set to install.
5. Click Open and then click OK on the next screen.
6. Wait until Hauptwerk™ finishes installing the selected file then proceed with the installation of the next file.

Ensure that you have the latest version of the packages installed and apply any updates or upgrades that you have (see the next chapter to find out how).

We first recommend installing the Data and then the Organ component.

2.2. Upgrading the Trial Edition

Any updates, upgrades require the main organ to be installed first. All upgrades, updates come as separate installer files. Once you have all the files downloaded or received otherwise on your computer, please install them. The procedure for installing upgrades and updates is the same as the normal installation process.

To obtain the latest updates you need to register your copy. To do this:

1. Go to <http://www.inspiredacoustics.com>
2. Create an account if you do not already have one by clicking on the Sign Up link.
3. In case you received a boxed product click the Register menu at the Inspired Acoustics website and enter you serial number that you received. If you do not have such a number, please contact us.
4. After you registered, go to the My products section and you will find your product and its Update files within a few minutes.
5. Download the package that has the name 'LATEST' written in it. Install this package, once downloaded, following the procedure above in chapter 2.1. If there is no such package, you already have the latest version on your computer.

For the smoothest operation, please ensure that you have the latest version of your product, so please download and install this file once a new version becomes available. This file is made so that it will update your organ to the latest version regardless of what version you have. To see what is changed, you can find the latest version numbers and version history at the same website and at the Inspired Acoustics Knowledge Base website (<http://www.inspiredacoustics.com/kb>).

3. Controls of the virtual pipe organ

The console and the controls of the virtual organ are slightly different from the original instrument. These are very minor modifications, made with the aim of achieving better and more convenient control and playability.

3.1. Pages

The organ controls are organized into so-called “Pages” in the Hauptwerk™ program, to allow convenient operation. Each page of this virtual instrument plays a different role, and allows you to control and monitor the organ’s numerous features in a convenient way. The following table summarizes the contents of each page.

Page name	Description	What is it for?
Console	Overview of the organ console.	Check, control, observe and demonstrate everything on one screen, including keyboard, pedal, swell box and crescendo wheel movements.
Center	Organ console: all control elements except keys on one single page, modified for convenient control.	For systems with a single touch display screen, this page allows you to control all stops, combination action and miscellaneous functions
Left	Organ console: stops of the left side, close-up, modified for convenient control.	For systems with two individual touch screens, you can place this screen to the left of the keyboard, to control the left bank of stops, just as on the real instrument.
Right	Organ console: stops of the right side, close-up, modified for convenient control.	For systems with two individual touch screens, you can place this second screen to the right of the keyboard, to control the right bank of stops, just as on the real instrument.
Crescendo (1-6)	Programmable crescendo	These pages allow you to program the pipe organ’s crescendo wheel to any desired custom configuration.
Keyboard Mass	Keyboard mass control	Virtual controls for the Keyboard Mass™ functionality allowing to change the response and inertia of the keyboards. Keyboard to manual assignment

3.2. Keys and keyboards

All keys and keyboards are shown in a photo-realistic perspective view, fully responsive to mouse control. The notes, pedal keyboard, swellbox pedal and crescendo wheel all faithfully

mirror your performance intentions.

The instrument has 6 divisions: 5 full compass (48 to 73 note) organ divisions and a pedal division; and the keyboard divisions are freely assignable (all divisions except for the pedal are floating divisions).

The first division is called Unterwerk (Grand Organ), and on the control pages it is referred to as "Unt". By default the 1st manual is dedicated to sound this division.

The second division, called Hauptwerk belongs to the 2nd manual by default, and is referred to as "Hw" on control switches and tables.

The third organ division is the Positive, its short name is "Pos". By default it is sounded by the 3rd manual.

The fourth division, belonging to the 4th manual is called Oberwerk, and is referred to as "Ob".

The fifth division controlled by the 5th manual is the Schellwerk, its abbreviation is "Sw".

The pedal division is referred to as "P".

Although every division has its dedicated manual or pedalboard, all of them are floating divisions. This means that every division can be played using any keyboard, or even the pedalboard. Such operating modes can be set up using the couplers. For example, if you wish to use the 3rd manual to play the notes of the Schellwerk besides the original Positive stops, you can use the "Sw>Pos" coupler switch to do so (please see chapter 3.6).

3.3. Stops

The console of the organ features stopswitches which slide between two vertically positioned states: their upper position indicates that the stop is off, the lower means that the stop is engaged. There are various "pages" in the Hauptwerk™ displays containing close-up images of the stops. If you manipulate the stops or controls in one page, their on/off status will be synchronized with the other pages as well.

On the control pages of the virtual instrument some stop switches are pale red coloured, instead of white. This indicates that those stops are not available, since they have not yet been built in the actual instrument.

Note: All stop switches of the 1st manual are disabled (which is indicated by their red color), since in the actual instrument, which is planned to be a five manual symphonic organ, none of the stops of the first division have been built yet. Please see the disposition table in chapter 4.3 for more detailed information on the stop list.

3.4. Displays

On the Console/Center/Left/Right pages, you can see a display on the virtual organ, showing the currently selected combination and the states of the swell pedals and the crescendo wheel

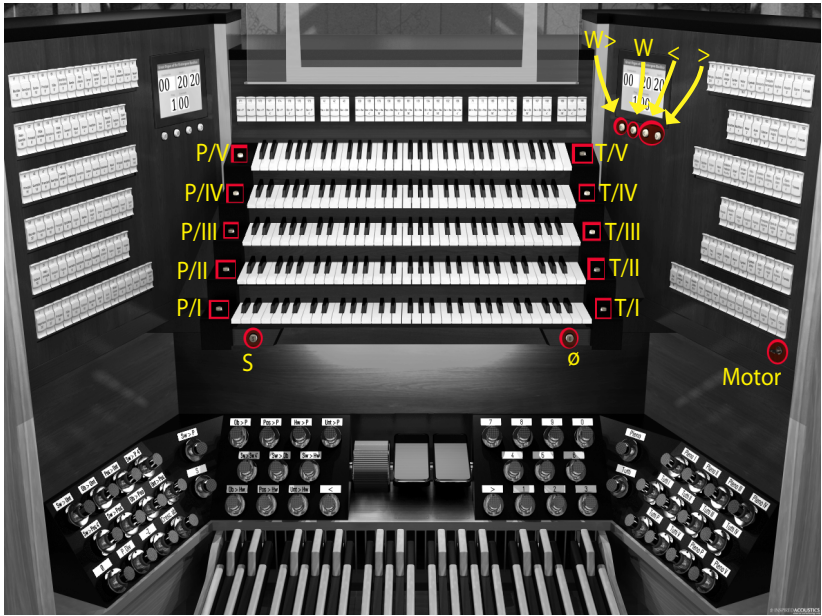
(see chapter 3.8).

3.5. Switches

The console has several button controls for use during live performance. Some of these buttons control additional sounds, the engine noise for example; other buttons control or trigger functions, such as the Combination Action or the temporary removal/restoration of reed stops.

3.5.1. Console page switches

The following figure shows the switches of the Console page highlighted.

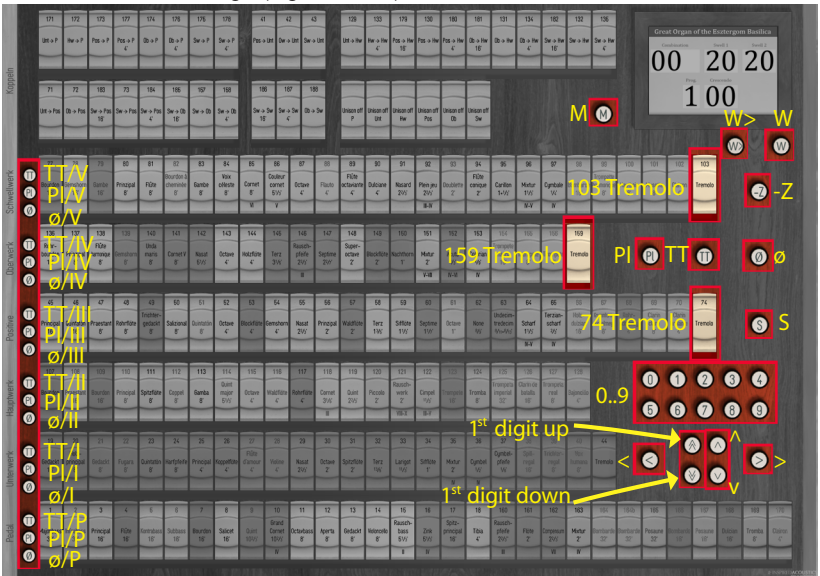


Switch		Effect
Left of the keyboards	P/V	Divisional plenum for the 5 th manual
	P/IV	Divisional plenum for the 4 th manual
	P/III	Divisional plenum for the 3 rd manual
	P/II	Divisional plenum for the 2 nd manual
	P/I	Divisional plenum for the 1 st manual
	S	Set button for the combination action
Right of the keyboards	T/V	Divisional tutti for the 5 th manual

	T/IV	Divisional tutti for the 4 th manual
	T/III	Divisional tutti for the 3 rd manual
	T/II	Divisional tutti for the 2 nd manual
	T/I	Divisional tutti for the 1 st manual
	∅	General cancel (all stops and couplers off)
Right side panel	W>	Next crescendo program
	W	Enable the crescendo wheel operation
	<	Activate the previous combination
	>	Activate the next combination
	Motor	Turns the organ engine noise on/off

3.5.2. Center/Left/Right page switches

The following picture shows the switches of the Center Page highlighted. Equivalently labeled controls on the Left and Right pages are also present.



Switch	Effect
Left side, top to bottom	
TT/V	Divisional tutti for the 5 th manual
PI/V	Divisional plenum for the 5 th manual

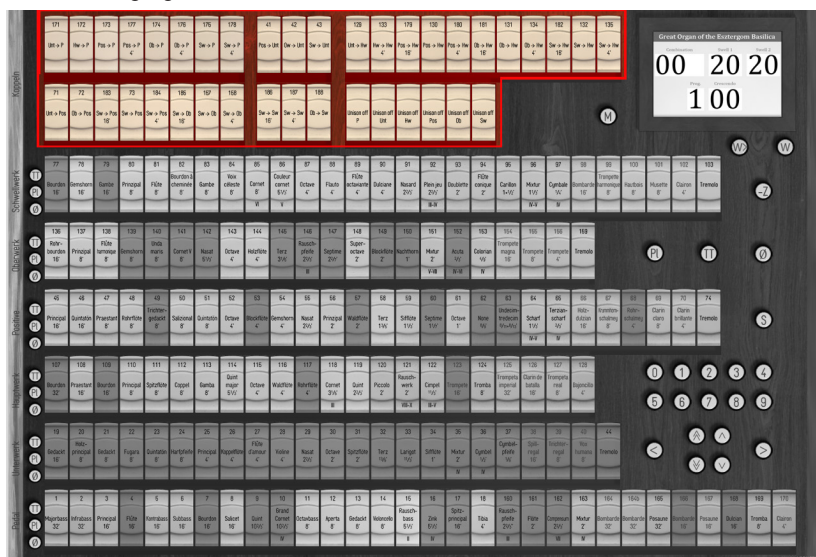
Right side, left to right,
top to bottom

ø/V	Divisional cancel for the 5 th manual
TT/IV	Divisional tutti for the 4 th manual
PI/IV	Divisional plenum for the 4 th manual
ø/IV	Divisional cancel for the 4 th manual
TT/III	Divisional tutti for the 3 rd manual
PI/III	Divisional plenum for the 3 rd manual
ø/III	Divisional cancel for the 3 rd manual
TT/II	Divisional tutti for the 2 nd manual
PI/II	Divisional plenum for the 2 nd manual
ø/II	Divisional cancel for the 2 nd manual
TT/I	Divisional tutti for the 1 st manual
PI/I	Divisional plenum for the 1 st manual
ø/I	Divisional cancel for the 1 st manual
TT/P	Divisional tutti for the pedalboard
PI/P	Divisional plenum for the pedalboard
ø/P	Divisional cancel for the pedalboard
M	Store combination
W>	Next crescendo program
W	Enable Crescendo program
103 Tremolo	Tremolo switch for the 5 th manual
-Z	Disable all reed stops
159 Tremolo	Tremolo switch for the 4 th manual
PI	General plenum
TT	General tutti
ø	General cancel (all stops and couplers off)
74 Tremolo	Tremolo switch for the 3 rd manual
S	Set button for the combination action
0..9	10 individual buttons from 0 to 9 to directly set the 3 rd digit of the combination number
<	Activate the previous combination

1 st digit up	Increase the 1 st digit of the combination number
1 st digit down	Decrease the 1 st digit of the combination number
^	Increase the 2 nd digit of the combination number
v	Decrease the 2 nd digit of the combination number
>	Activate the next combination

3.6. Couplers and unison off switches

A coupler allows the stops of a certain division to be played using another division's keyboard. Each unison off switch turns off the unison stops in the division it is dedicated to. The couplers and the unison off switches of the instrument can be controlled together on the Center page, for your convenience. The following figure shows the Center page, with the coupler and unison off switches highlighted.



Switch

Effect

First row, left to right

171 Unt>P

Unt>P coupler

172 Hw>P

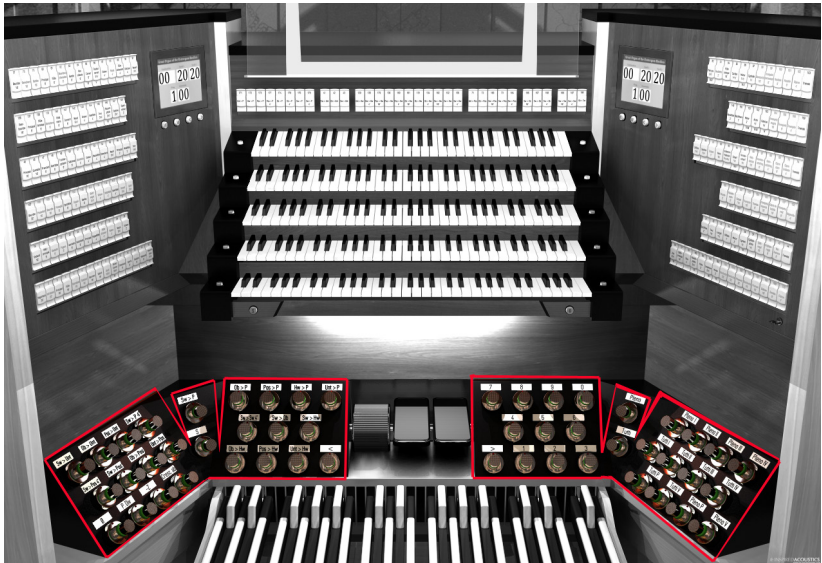
Hw>P coupler

	174 Pos>P	Pos>P coupler
	177 Pos>P 4'	Pos>P coupler for 4' stops only
	174 Ob>P	Ob>P coupler
	176 Ob>P 4'	Ob>P coupler for 4' stops only
	175 Sw>P	Sw>P coupler
	178 Sw>P 4'	Sw>P coupler for 4' stops only
	41 Pos>Unt	Pos>Unt coupler
	42 Ow>Unt	Ow>Unt coupler
	43 Sw>Unt	Sw>Unt coupler
	129 Unt>Hw	Unt>Hw coupler
	133 Hw>Hw 4'	Hw>Hw coupler for 4' stops only
	179 Pos>Hw 16'	Pos>Hw coupler for 16' stops only
	130 Pos>Hw	Pos>Hw coupler
	180 Pos>Hw 4'	Pos>Hw coupler for 4' stops only
	181 Ob>Hw 16'	Ob>Hw coupler for 16' stops only
	131 Ob>Hw	Ob>Hw coupler
	134 Ob>Hw 4'	Ob>Hw coupler for 4' stops only
	182 Sw>Hw 16'	Sw>Hw coupler for 16' stops only
	132 Sw>Hw	Sw>Hw coupler
	135 Sw>Hw 4'	Sw>Hw coupler for 4 stops only
Second row, left to right	71 Unt>Pos	Unt>Pos coupler
	72 Ob>Pos	Ob>Pos coupler
	183 Sw>Pos 16'	Sw>Pos coupler for 16' stops only
	73 Sw>Pos	Sw>Pos coupler
	184 Sw>Pos 4'	Sw>Pos coupler for 4' stops only
	186 Sw>Ob 16'	Sw>Ob coupler for 16' stops only
	157 Sw>Ob	Sw>Ob coupler
	168 Sw>Ob 4'	Sw>Ob coupler for 4' stops only
	166 Sw>Sw 16'	Sw>Sw coupler for 16' stops only
	187 Sw>Sw 4'	Sw>Sw coupler for 4' stops only
	188 Ob>Sw	Ob>Sw coupler

Unison off P	Turn off unison stops on the pedal board
Unison off Unt	Turn off unison stops on the 1 st manual
Unison off Hw	Turn off unison stops on the 2 nd manual
Unison off Pos	Turn off unison stops on the 3 rd manual
Unison off Ob	Turn off unison stops on the 4 th manual
Unison off Sw	Turn off unison stops on the 5 th manual

3.7. Foot pistons

There are several foot pistons on the Esztergom organ that are available to wire to your organ console. The following figure shows them highlighted.



Button	Effect
Left group, left to right, top to bottom	Sw>Unt
	Ob>Unt
	Pos>Unt
	Sw>P 4'
	Sw>Unt coupler
	Ob>Unt coupler
	Pos>Unt coupler
	Sw>P coupler for 4' stops only

Sw>P	Sw>P coupler
Ob>P	Ob>P coupler
Pos>P	Pos>P coupler
Hw>P	Hw>P coupler
Unt>P	Unt>P coupler
Sw>Pos 4'	Sw>Pos coupler for 4' stops only
Sw>Pos	Sw>Pos coupler
Ob>Pos	Ob>Pos coupler
Unt>Pos	Unt>Pos coupler
S	Set button for the combination action
Sw>Sw 4'	Sw>Sw coupler for 4' stops only
Sw>Ob	Sw>Ob coupler
Sw>Hw	Sw>Hw coupler
Ø	General cancel (all stops and couplers off)
P. Div	Divides the pedalboard - once pressed, the first 13 pedals will play the original pedal stops without couplers, the rest of them only sound the stops coupled to the pedals
-Z	Disable all reed stops
Cresc ab	Disables the crescendo wheel
Ob>Hw	Ob>Hw coupler
Pos>Hw	Pos>Hw coupler
Unt>Hw	Unt>Hw coupler
<	Activate the previous combination
Right group, left to right, top to bottom	Set the 3 rd digit of the combination to 7
8	Set the 3 rd digit of the combination to 8
9	Set the 3 rd digit of the combination to 9
0	Set the 3 rd digit of the combination to 0
Pleno	General plenum
Pleno I	Divisional plenum for the 1 st manual
Pleno II	Divisional plenum for the 2 nd manual

Pleno III	Divisional plenum for the 3 rd manual
Pleno IV	Divisional plenum for the 4 th manual
4	Set the 3 rd digit of the combination to 4
5	Set the 3 rd digit of the combination to 5
6	Set the 3 rd digit of the combination to 6
Tutti	General tutti
Tutti I	Divisional tutti for the 1 st manual
Tutti II	Divisional tutti for the 2 nd manual
Tutti III	Divisional tutti for the 3 rd manual
Tutti IV	Divisional tutti for the 4 th manual
>	Activate the next combination
1	Set the 3 rd digit of the combination to 1
2	Set the 3 rd digit of the combination to 2
3	Set the 3 rd digit of the combination to 3
Tutti P.	Divisional tutti for the pedals
Tutti V	Divisional tutti for the 5 th manual
Pleno P	Divisional plenum for the pedals
Pleno V	Divisional plenum for the 5 th manual

3.8. Swellboxes and crescendo wheel

Swellboxes are enclosures with vertical venetian blind-type shutters controlled by the swell pedals (or ‘swell shoes’). As a given shutter closes, the pipes contained in that swellbox will sound quieter and darker (with lesser amounts of high overtones). The Esztergom Organ’s swellbox characteristics are brought to life through modeling.

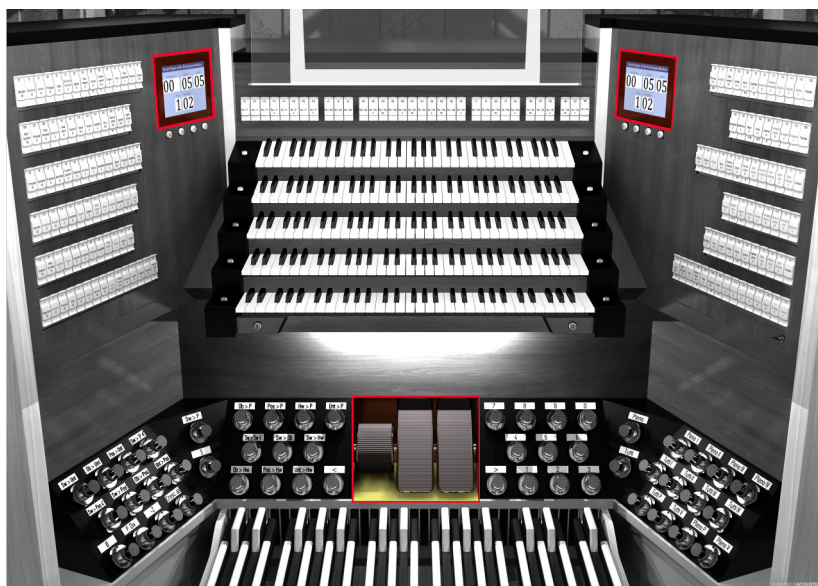
The Esztergom pipe organ Collector’s Edition contains 3 MIDI assignable swellbox pedals and all divisions - except for the pedalboard - are virtually enclosed. This means that once you assign a swellbox pedal to an enclosed division you can control its state instantly. By default, the following assignments are effective:

	Swell pedal 1 (Sw1)	Swell pedal 2 (Sw2)	Swell pedal 3 (Sw3)
Division	Positive (manual #3)	Oberwerk (manual #4)	Schellwerk (manual #5)

Each enclosed division has its own independent enclosure characteristics. Once you change the swellbox pedal to division assignment, you can control the enclosures of different divisions one-by-one, but multiple assignments (one pedal controls more) are also available.

To set which enclosures the available three swell pedals control you can use the assignment buttons on the KeyboardMass page (see chapter 3.9). Labeled with Sw1, Sw2, Sw3 each swell pedal can be assigned to control one or more divisions. For example, if you would like to control the Positive and the Schellwerk together with a single pedal, just assign both of them to Sw1.

The crescendo wheel is an axially rotating drum operated by foot control, and is used in place of a conventional crescendo pedal. The wheel is positioned to the left of the foot-operated swell-box pedals. Sliding (rolling) it forward from position 0 to a higher position triggers stops in a preset user-defined manner, according to the sequence contained in the respective Crescendo



Program. There are 4 independent crescendo programs available.

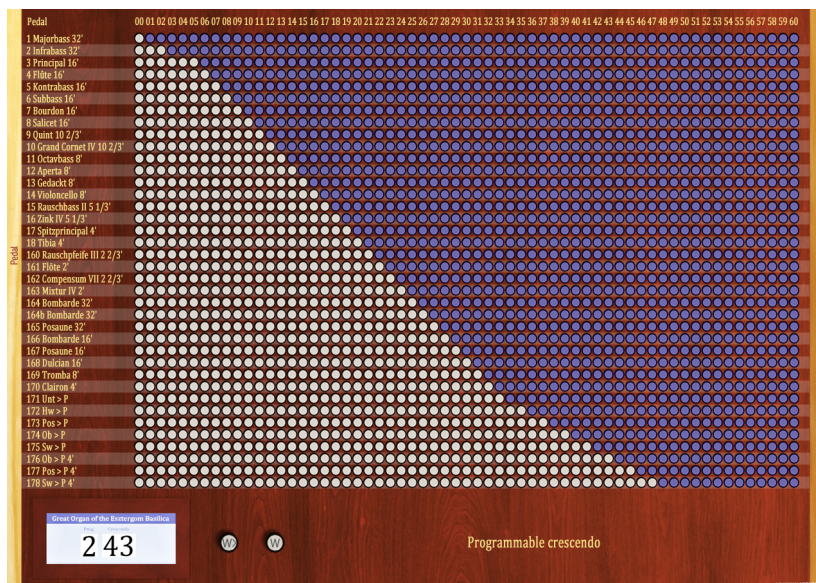
The above figure shows the Console page, highlighting the crescendo pedal (left pedal), two swell pedals (middle and right pedals), and the display showing the state of the crescendo and swell pedals.

3.8.1. User defined crescendo programs

In this instrument every division has its dedicated crescendo control page, named from "Cresc. 1" to "Cresc 6". On each crescendo page there is a list of the stops and couplers in the division. Every stop and coupler on the list has its own horizontal line on the page, consisting of dots numbered from 00 to 60, referring to the possible positions of the crescendo wheel. There is an "on" and "off" state of each dot in each line, indicated by their color (white - off, blue - on), which can be changed by clicking them on the display. If one dot's state is "on", then that particular stop (or coupler) which the dot belongs to, will be turned on when the crescendo wheel

is in the position indicated by the dot's horizontal position. The EasyCrescendo programming feature makes defining crescendo programs quick and easy. When you click a dot, all the other dots in the same horizontal line from the selected position to the first position that has a different status than the selected one, will change their on/off state. This makes defining crescendo programs more convenient.

The following picture shows an example of a crescendo setting for the pedal board. In this



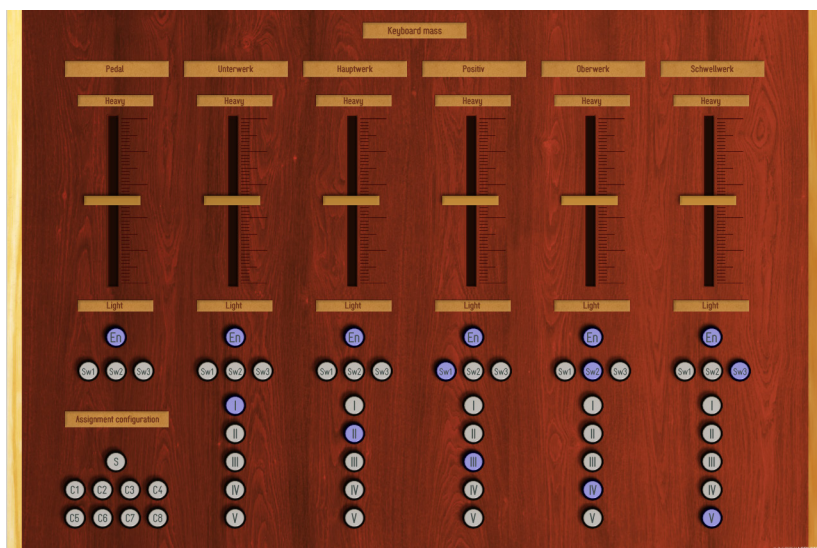
setting, the crescendo wheel triggers more and more stops, while it is sliding forward from position 0 to higher positions.

3.9. The Keyboard Mass page

Keyboards and tracker actions of pipe organ have mass, inertia, which describe their response while you play. The Dynamic KeyboardMass™ is a special feature in the Esztergom Pipe Organ Samples that allows you simulate and control each of the organ's keyboards heaviness independently, even if your keyboard controller does not support any dynamics at all. This revolutionary feature adds a new layer of realism to play the virtual pipe organ.

The Dynamic KeyboardMass™ model sets the response of both the speaking and the release part of the pipe sound simultaneously and dynamically, adopting itself to your actual key-presses. Practically this makes the virtual organ a living instrument and ensures that the virtual instrument remains very responsive even if you set it to have very heavy keyboards.

On the KeyboardMass page, 6 faders are displayed, each dedicated to a specific manual, and



the pedalboard. The faders can be set from light to heavy keyboard mass, independently from each other.

3.10. Independent Combination Action

The Esztergom organ's combination action is independent of the combination action built in Hauptwerk™ (version 3) and it replicates the original organ's own combination action. This feature is completely independent of Hauptwerk's™ own combination action system, allowing more convenient use.

The instrument's combination action has 1000 programmable banks.

3.10.1. Programming and resetting from Graphical User Interface (GUI) or Musical Instrument Digital Interface (MIDI)

Once you define a stop configuration on the console that you wish to save as a combination preset (also called a "frame"), press the S button once, and then press either a number or a navigation key to select which combination frame you want to program. If you select the same frame that was previously active, the previous combination will be overwritten with the new one.

Hint: The easiest way to program a particular stop combination into the next frame is to press the S set button and then press the > increment button. This will program the currently set configuration to the next frame and increment the current frame by one to that frame – with a single click.

You can also assign MIDI messages to these buttons so that, if you have a MIDI-capable console,

all these functionalities can be directly available to you in physical form as well.

3.10.2. Navigation and use during organ play

Navigating between different combination frames is very easy. You can navigate to the desired bank number by respectively selecting the 1st, 2nd and 3rd digit with the dedicated switches mentioned above.

For example, if you would like to activate the combination stored in bank number 235, and the actual bank number is 000, then on the Center page you need to press the 1st digit up switch (see the figure in chapter 3.5.2) twice, to set the first digit to 2, then press the 2nd digit up switch 3 times to set the 2nd digit to 3, then press the 5 switch, to set the 3rd digit to 5.

3.10.3. Programmable tutti and pleno

In this virtual organ the tutti and the general combination (the pleno) are freely configurable. You can define any stop and coupler combination for them. Setting up a custom tutti or pleno combination is very simple. Just set the desired combination using the stop and the coupler switches, and press the set button of the combination action. This button is marked with "S" and can be found on the Console and Center pages (see chapter 3.5.1 and 3.5.2). Finally, push the pleno or tutti switch, depending on which one of them you wish to program. They are located on the Center page, and on the Console page, as foot pistons (see chapter 3.5.2 and 3.7). Once the tutti or pleno switch is pushed, the current combination is set as tutti or pleno.

3.10.4. Loading and saving combinations to files

Saving entire banks of combinations is just as easy as saving Hauptwerk's™ (version 3) own combinations, and can be configured using the same commands.

Tip: Make sure you save your combination action frames when you unload the organ. You can then restore this later by loading it from the Hauptwerk* menu.

4. The Esztergom Basilica and its organ

4.1. Basilica of the Blessed Virgin Mary and St Adalbert

The original cathedral at the place of the basilica was raised by Saint Stephen in the 11th century to the worship of Virgin Mary and Saint Adalbert. This building perished in a fire in 1180. Not long after the incident it was restored by archbishop Jób with the help of king Béla III. Originally, the building was not only a cathedral, but was also meant to be the seat of the king so it had a castle around it. However, the descendants of Béla III preferred Buda as the head of authority, so in the late 12th century the catholic church of Hungary began to take possession of the castle. The minster successfully resisted against the mongolian invasion in the early 1240s, but was captured and damaged in the turkish siege in 1543. After its fall the turkish partially demolished the the cathedral and used it as a mosque. In 1594, during the battle for the retake of the castle, the gunpowder stored inside has exploded. Only the so-called Annuntiatio-chapel (built between 1506 and 1511) of archbishop Tamás Bakócz survived the explosion. Between 1768 and 1770, in the center of the remains of the castle, Maria Theresia raised a baroque cathedral to the worship of Saint Stephen.

Later, archbishop Sándor Rudnay had grand plans aiming to make Esztergom once again the head and seat of the catholic church in Hungary. The remains and ruins of the original minster were cleared away permanently. The Bakócz chapel was built into the new basilica, preserving the northernmost unharmed baroque

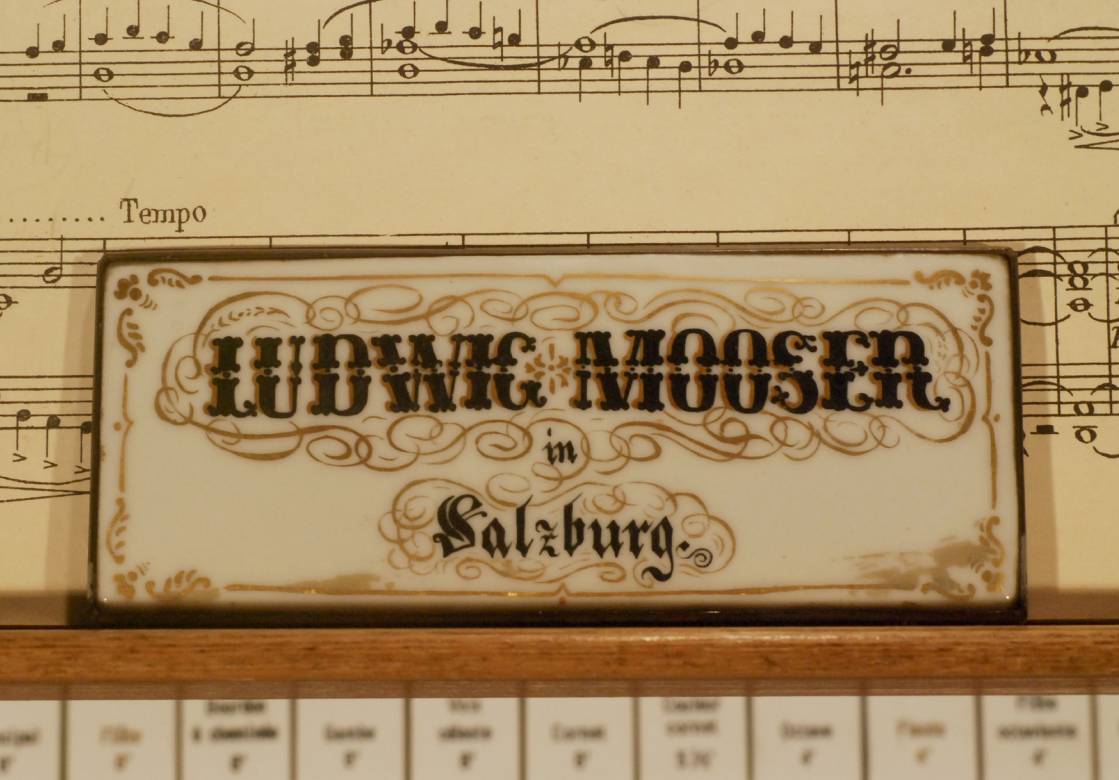


chapel in Europe. Rudnay's plan was not only to build the cathedral itself, but a building complex covering the whole castle hill. The foundation-stone of the cathedral was laid and the work began in 1822. Due to insufficient financial resources, only certain parts of the complex were built, including the cathedral and the archbishop's mansion. The Viennese court was not pleased with the idea of building the largest cathedral of the Habsburg Empire in Hungary, therefore efforts were made to obstruct the implementation of the plans. However, in 1831 the crypt was ready, and major part of the lateral walls were standing. The lead constructor, János Packh was murdered in 1838. According to judicial documents and original press material, the murder was done with the aim of robbing Packh's financial goods, and was not connected to

the Habsburg authority. József Hild was commissioned to take Packh's place. Hild made major modifications in the original plans, including the eastern facade, therefore the final, Classicistic look of the basilica originates from him. The cross was placed on the top of the dome in 1846, and the cathedral was completed under János Scitovszky, the next archbishop after Sándor Rudnay. The dedication of the upper church was on August 31, 1856. The consecration ceremonies featured the premiere of the *Missa solennis zur Einweihung der Basilika in Gran*, or more commonly called the Esztergom Mass, composed and conducted by Franz Liszt. The ceremony was attended by Franz Joseph, Emperor of Austria, later the emperor of the Dual monarchy of Austria and Hungary.

During the planning and construction, the monumentary of the cathedral and the grand mission of making the city of Esztergom once again the seat of the catholic church in Hungary was obviously emphasized. *CAPUT, MATER ET MAGISTRA ECCLESiarum HUNGARIAE*, stands engraved into the main facade of the cathedral, meaning: "Head, mother and teacher of the churches in Hungary". The Basilica of Esztergom has enormous measures. It is the 18th largest cathedral in the world, being 118 m long and 49 m wide. The interiors were also designed to be worthy of this honorable building. Walking into the dome, stunning scenery and monumental measures welcome the visitors. The altar picture, portraying the assumption of the Blessed





Virgin Mary is the work of Michelangelo Grigoletti. It is the largest painting ever painted on a single piece of canvas, being 13.5 m high and 6.6 m wide.

4.2. The Esztergom Organ

This organ is one of the greatest creations of Ludwig Mooser, the builder of nearly 180 instruments, belonging to a long line of distinguished organ builders. The instrument was largely built on-site, and the metal pipework was brought from Austria in September 1854 on ships on the river Danube, and was carried up into the cathedral on wagons. The organ's inauguration date was the same as the Basilican inauguration itself: 31 August, 1856. The organ was the largest in Hungary with 49 stops, 3,530 pipes and 3 manuals at the time. The extreme rapidity of the organ's construction manifested in a series of early faults, first catalogued as early as March the following year, with significant problems in the tracker action and wind supply to the chests. The organ was however, largely unchanged for a long time, being imperfect, but operational. The next relevant touch after the assembly of the instrument was during World War I, when the frontal tin pipes were removed as a necessary stock supply for the war. They were replaced in 1924 with ones of zinc by Joseph Angster. Extensive damage to the organ case and tracker mechanism was sustained as a casualty of World War II. Until that time, the organ was in its original state (apart from the exchange of the front pipes).

In early October 1945, the instrument was no longer functional. Despite of the fact that the damage to the organ was not incorrigible, the decision was made to temporarily substitute the instrument with a 2-manual electropneumatic organ, installed into a part of the original organ

case by the Rieger Ottó firm. During the installation of the Reiger temporary replacement, the console and tracker action of the Mooser organ were irretrievably damaged. Some number of the Mooser-pipes were built into the temporary organ, others remained in their original place in ruinous condition or disappeared.

The still-current reconstruction of the organ dates back to the mid-1970s, when István Baróti (organist and choir master of the Cathedral from 1975) initiated a rebuild and massive enlargement of the instrument. The starting point for Baróti's plan — to create an instrument worthy of the Cathedral, well adapted to its prodigious dimensions and acoustics — was to be the salvage, revival and meticulous restoration of the characteristically archaic and solemn sound of the Mooser pipe-rows. In the '70s, the practice of restoring instruments was unknown



in Hungary, therefore Baróti and his students carried out the restoration themselves, unselfishly sacrificing lots of their time and efforts, while they gained friendly but skeptical attention of professionals.

Prof. Baróti conceived a new and innovative stop list as part of his development plans (among Baróti's many remarkable designs is the stop list for the pipe organ of the Palace of Arts Budapest, 2006). With the necessary funds provided, it became possible to purchase certain parts and pipe-rows, with the result that by the end of 1980 the first seven restored Mooser stops were operational, at which time the temporary Rieger organ was permanently decommissioned. Later on, the initial spark of the restoration started to fade, the restoring and building process got slower

and slower. In 1999, only 39 of the planned 147 stops were functioning, and at this time many pipe-rows purchased in the late '70s and early '80s were still waiting to be installed into the instrument.

In 2011 76 stops were speaking. Although Baróti has devoted the major part of his life to this cause, the organ's completion is still a goal to be achieved in the future. In a 2008 interview he said in reflection, "... and then the restoration started. As a result we have a unity, an instrument with a special sonic personality that may be unlike what we expect from current modern pipe

organs.” He continued, “I practice, most often, after the Basilica closes its doors (for the night). The organ and me is a fantastical loneliness.”

4.3. Disposition

The disposition of the Esztergom virtual organ is as follows:

Pedal		I. Unterwerk	
Stop	Compass	Stop	Compass
1 Majorbass 32'	C2-B2	19 Gedackt 16'	
<u>2 Infrabass 32'</u>	C2-G4	20 Holzprincipal 8'	
3 Principal 16'	C2-G4	21 Gedackt 8'	
4 Flûte 16'		22 Fugara 8'	
<u>5 Kontrabass 16'</u>	C2-G4	23 Quintatön 8'	
<u>6 Subbass 16'</u>	C2-G4	24 Harfpfeife 8'	
7 Bourdon 16'		25 Principal 4'	
8 Salicet 16'	C2-G4	26 Koppelflöte 4'	
9 Quint 102/3'		27 Flûte d'amour 4'	
10 Grand Cornet IV 10 2/3'		28 Violine 4'	
11 Octavbass 8'	C2-G4	29 Nasat 22/3'	-
12 Aperta 8'	C2-G4	30 Octave 2'	
13 Gedackt 8'	C2-G4	31 Spitzflöte 2'	
14 Violoncello 8'	C2-G4	32 Terz 13/5'	
15 Rauschbass II 5 1/3'	C2-G4	33 Larigot 11/3'	
16 Zink IV 5 1/3'		34 Sifflöte 1'	
17 Spitzprincipal 4'		35 Mixtur IV 2'	
18 Tibia 4'	C2-G4	36 Cymbel IV 1/2'	
160 Rauschpfeife III 2 2/3'		37 Cymbelpfeife 1/6'	
161 Flöte 2'		38 Spillregal 16'	
162 Compensum VII 2 2/3'		39 Trichterregal 8'	
163 Mixtur IV 2'	C2-G4	40 Vox humana 8'	
164 Bombarde 32'	C2-G4		
164b Bombarde 32' 2nd row	C2-B2		
<u>165 Posaune 32'</u>	C2-G4		
166 Bombarde 16'			

167 Posaune 16'	C2-G4
168 Dulcian 16'	
<u>169 Tromba 8'</u>	C2-G#3
170 <u>Clairon 4'</u>	C2-G4

II. Hauptwerk		III. Positiv	
Stop	Compass	Stop	Compass
107 Bourdon 32'		45 Principal 16'	C2-C7
<u>108 Praestant 16'</u>	C2-F#6	46 Quintatön 16'	C2-C7
109 Bourdon 16'		47 Praestant 8'	C2-C7
<u>110 Principal 8'</u>	C2-G6	48 Rohrflöte 8'	C2-C7
111 Spitzflöte 8'	C2-C7	49 Trichtergedackt 8'	
<u>112 Coppel 8'</u>	C2-G6	50 Salizional 8'	C2-C7
113 <u>Gamba 8'</u>	C2-C7	<u>51 Quintatön 8'</u>	C2-C7
<u>114 Quintajor 5 1/3'</u>	C2-G6	52 Octave 4'	C2-C7
<u>115 Octave 4'</u>	C2-G6	53 Blockflöte 4'	
<u>116 Waldflöte 4'</u>	C2-G6	54 Gemshorn 4'	C2-C7
117 Rohrflöte 4'		55 Nasat 2 2/3'	C2-C7
<u>118 Cornet III 3 1/5'</u>	C2-G6	56 Prinzipal 2'	C2-C7
<u>119 Quint 2 2/3'</u>	C2-G6	57 Waldflöte 2'	
120 Piccolo 2'	C2-C7	58 Terz 1 3/5'	C2-C7
<u>121 Rauschwerk VIII-X 2'</u>	C2-G6	59 Sifflöte 1 1/3'	C2-C7
<u>122 Cimpel III-V 1 1/3'</u>	C2-G6	60 Septime 1 1/7'	
123 Trompete 16'		<u>61 Octave 1'</u>	C2-C7
124 <u>Tromba 8'</u>	C2-C7	62 None 8/9'	
125 Trompeta imperial 32'	C3-B6	63 Undecim-tredecim 8/11 + 8/13'	
126 Clarin de batalla 16'	C2-C7	64 Scharf IV-V 1 1/3'	C2-C7
127 Trompeta real 8'	C2-C7	65 Terzianscharf IV 2/3'	C2-C7
128 Bajoncillo 4'	C2-C7	66 Holzdulzian 16'	C2-C7
		67 Krummhorn-Schalmey 8'	C2-G6
		68 Rohrschalmey 4'	
		69 Clarin claro 8'	C2-C7
		70 Clarin brillante 4'	C2-C7

*Shared with stop 126

IV. Oberwerk		V. Schwellwerk	
Stop	Compass	Stop	Compass
136 Rohrbourdon 16'	C2-C7	77 Bourdon 16'	
137 Prinzipal 8'	C2-C7	<u>78 Gemshorn 16'</u>	C2-C7
138 Flûte harmonique 8'	C2-C7	79 Gambe 16'	
139 Gemshorn 8'		80 Prinzipal 8'	C2-C8
140 Unda Maris 8'		81 Flûte 8'	C2-C8
141 Cornet V 8'		<u>82 Bourdon à cheminée 8'</u>	C2-G6
142 Nasat 5 1/3'		83 Gambe 8'	C2-C8
143 Octave 4'	C2-C7	84 Voix céleste 8'	C2-C7
144 Holzflöte 4'	C2-C7	85 Cornet VI 8'	C2-C8
145 Terz 31/5'		86 Couleur cornet V 5 1/3'	C2-C8
146 Rauschpfeife III 2 2/3'		87 Octave 4'	C2-C8
147 Septime 2 2/7'		<u>88 Flauto 4'</u>	C2-G6
148 Superoctave 2'	C2-C7	89 Flûte octaviante 4'	C2-C8
149 Blockflöte 2'		90 Dulciane 4'	C2-G6
150 Nachthorn 1'		91 Nasard 22/3'	C2-C8
151 Mixtur V-VII 2'	C2-C7	92 Plein jeu III-IV 2 2/3'	C2-C8
152 Acuta IV-VI 2/3'		<u>93 Doublette 2'</u>	C2-G6
153 Colorian IV 4/9'	C2-C7	94 Flûte conique 2'	C2-C8
154 Trompeteagna 16'	C2-C7	95 Carillon 1 + 1/2'	C2-C8
155 Trompète 8'	C2-C7	96 Mixtur IV-V 1 1/3'	C2-C8
156 Trompète 4'	C2-C7	97 Cymbal IV 1/4'	C2-C8
		98 Bombarde 16'	C2-C8
		99 Trompette harmonique 8'	C2-C8
		100 Hautbois 8'	C2-C8
		101 Musette 8'	C2-C8
		102 Clairon 4'	C2-C8

Legend:

Regular - Already included in the original instrument and the virtual organ

Underline - Original stops built by Mooser

Red - Yet to be built, temporarily supplied from other instruments for better playability, will be recorded from the original instrument for the final release

Gray - Yet to be built

4.4. Recording

Creating a sample set of an organ under construction is an exciting object. The recording was done in three different recording sessions between 2006 and 2010, sampling the entire organ from different perspectives and states. The robust measures of the cathedral result in unique acoustics of reverberation times longer than 9 seconds in wide-band average. A new post-processing technique has been developed for this organ, in regard to keep the huge reverberation with its unique decay shape. The recording was carried out with 192 kHz and 24 bits resolution, and the sample set is in 48 kHz 24-bit format.



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The Esztergom Pipe Organ Samples was created by the Inspired Acoustics team. The team would like to thank Prof. István Baróti, Attila Pásztor, Katalin Pózer and the Basilica of Esztergom.

